



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

ml

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------------|
| 09/762,472 | 03/29/2001 | Michael Eder | 449122002000 | 4686 |
| 7590 Morrison & Foerster 2000 Pennsylvania Avenue NW Washington, DC 20006-1888 | | | EXAMINER ZHENG, LI B | |
| | | | ART UNIT 2194 | PAPER NUMBER |
| | | | MAIL DATE 06/08/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/762,472 | EDER ET AL. |
| | Examiner | Art Unit |
| | Li B. Zhen | 2194 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 March 2007.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-11 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 11 are pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/22/2007 has been entered.

Response to Arguments

3. Applicant's arguments filed 01/22/2007 have been fully considered but they are not persuasive. In response to the Final Office Action dated 09/22/2006, applicant argues:

- (1) Volftsun does not disclose an application program for call processing [p. 6];
- (2) The protocol engine of Volftsun does not enable an adaptive connection for various protocols between an application program for the signaling data and the call processing [p. 6]; and
- (3) An application program for call processing and signaling data and easily connect their respective various protocols via a single protection program is not disclosed [pp. 6 – 7].

As to argument (1), examiner respectfully disagrees and notes that Voltsun discloses an application program [Protocol Conversion Engine 300] for call processing [Call Instance 402, Fig. 4; col. 8, lines 10 – 48]. Voltsun discloses that the Protocol Conversion Engine is one of four software architectural element [col. 7, lines 20 – 32]. Since the Protocol Conversion Engine is a software architectural element, the Protocol Conversion Engine is an application program. The Protocol Conversion Engine also comprises a component [Call instance 402, fig. 4; col. 8, line 10 – 48] that performs call processing. The call instance comprises three functional states machines that control call processing: one designated for an originating call control, one designated for a terminating call control, and one designated as a Universal Call Model State Machine. Therefore, the Protocol Conversion Engine contains components that perform call processing (i.e. call control, terminating call control).

As to argument (2), examiner respectfully disagrees and notes that the protocol engine of Voltsun contain protocol adapters that enable an adaptive connection for various protocols between an application program for the signaling data and the call processing [i.e., External Systems Interface Protocol Adapter 406, provides a means for communicating to external systems and/or entities; col. 8, lines 10 – 48]. Protocol Adapter 406 supports the interconnection of external systems that may be involved in real time call control, such as Transaction Control Application Part--TCAP-- communications with a C7 network Service Control Point—SCP. Therefore, the

Art Unit: 2194

protocol adapters of the protocol engine enable adaptive connection for various protocols between an application for the signaling data and the call processing.

As to argument (3), examiner respectfully disagrees and notes that Volftsun teaches a single application program for call processing and signaling data and easily connect their respective various protocols. The protocol conversion engine is a single application programs that performs call processing [Call instance 402, fig. 4; col. 8, line 10 – 48] and signaling data [col. 8, line 60 – col. 9, line 2] and easily connect their respective various protocols [col. 8, lines 10 – 48]. Therefore, the combination of Doughty and Volftsun teaches applicant's invention as claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Statutory Invention Registration No. H1,898 to Doughty et al.

[hereinafter Doughty] in view of U.S. Patent NO. 6,151,390 to Volftsun et al.

[hereinafter Volftsun], both references cited in the previous office action.

7. As to claim 1, Doughty teaches the invention substantially as claimed including a method for operating a terminal unit [terminals 54; col. 7, lines 7 – 17] in an exchange [telecommunications switch 12; col. 7, lines 7 - 17] comprising:

performing signaling for a first subscriber [call processor 49 provides other elements that take part in processing calls directed to, or initiated by, the subscriber units 22; col. 6, lines 27 – 38] during execution of a first application program [signal processing modules 48; col. 4, lines 57 – 67] by a processor [processor; col. 4, lines 39 – 49] included in the terminal unit wherein

call processing between the first subscriber and a second subscriber is carried out during execution of a second application program [call processor 49 includes a call processing application that provides various call processing and signaling functions, such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61],

transferring signaling data, generated during signaling, at a message interface are transferred to the second application program [Each signaling interface module may

controllably receive signaling data from and transfer signaling data to the transmission link 26; col. 11, lines 15 – 29] by using an operating system [switching module 42 runs a suitable operating system such as pSOS+; col. 4, lines 38 – 49] for controlling the flow of the application programs [col. 8, lines 37 – 49], and

transferring call data, generated during call processing, at the message interface to the first application program by using the operating system [the call processor system 49 configures the switching module 42, the telephony support module 44, the interface modules 46, and the signal processing modules 48 to process the call data; col. 7, lines 35 – 45].

Although Doughty teaches the invention substantially, Doughty does not specifically teach the exchange between the first and second application programs for signaling data and call processing occurs by means of a connection program, such that a cooperation of one of the application programs with the other application program is provided for various protocols of one or both of the application programs.

However, Voltsun teaches exchanges [Private Branch Exchange; col. 5, line 45 – col. 6, line 29] with network terminals [Network Nodes; col. 7, lines 20 – 32], the exchange between the first and second application programs for signaling data [col. 8, line 60 – col. 9, line 2] and call processing [Call Instance 402, Fig. 4; col. 8, lines 10 – 48] occurs by means of a connection program [UPC 100 is comprised of four major software architectural elements--a Protocol Conversion Engine 300; col. 7, lines 20 – 32], such that a cooperation of one of the application programs with the other application program is provided for various protocols [Protocol Adapters 404, 406, and

408, Fig. 4; col. 8, lines 10 – 48] of one or both of the application programs [col. 8, lines 11 – 48].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Doughty to incorporate the features of Volftsun because this allows translation between heterogeneous signaling systems to provide fast, accurate connections in a reliable telephony service [col. 5, line 45 – 52 of Volftsun] and accommodates interworking of all network protocols and provides a set of flexible user tools to remotely define, map, alter and logically convert between any combination of multiple protocol stacks [col. 56, lines 10 – 25 of Volftsun].

8. As to claim 2, Doughty as modified by Volftsun teaches a method for operating terminal unit [terminals 54; col. 7, lines 7 – 17 of Doughty] in an exchange [telecommunications switch 12; col. 7, lines 7 – 17 of Doughty] comprising:

performing signaling with aid of a further exchange by a processor [processor; col. 4, lines 39 – 49 of Doughty] included in the terminal unit during execution of a first application program [signal processing modules 48; col. 4, lines 57 – 67 of Doughty],

call processing between the two exchanges during execution of a second application program [call processor 49 includes a call processing application that provides various call processing and signaling functions, such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61 of Doughty],

transferring signaling data, generated during signaling, at a message interface to the second application program [Each signaling interface module may controllably receive signaling data from and transfer signaling data to the transmission link 26; col. 11, lines 15 – 29 of Doughty] by using an operating system [switching module 42 runs a suitable operating system such as pSOS+; col. 4, lines 38 – 49 of Doughty] for controlling the flow of the application programs [col. 8, lines 37 – 49 of Doughty],

transferring call data, generated during call processing at the message interface to the first application program using operating system [the call processor system 49 configures the switching module 42, the telephony support module 44, the interface modules 46, and the signal processing modules 48 to process the call data; col. 7, lines 35 – 45 of Doughty], and

the exchange between the first and second application programs for signaling data [col. 8, line 60 – col. 9, line 2 of Volftsun] and call processing [Call Instance 402, Fig. 4; col. 8, lines 10 – 48 of Volftsun] occurs by means of a connection program [UPC 100 is comprised of four major software architectural elements--a Protocol Conversion Engine 300; col. 7, lines 20 – 32 of Volftsun], such that a cooperation of one of the application programs [Protocol Conversion Engine 300 and the individual I/O Channel Controllers 312 that provide communication with the interconnected Network Nodes, Customer Premises Equipment, and/or External Applications; col. 7, line 56 – col. 8, line 11 of Volftsun] with the other application program is provided for various protocols [Protocol Adapters 510, 512, 514, 516 and 518, each of which supports a unique

protocol or protocol family; col. 10, lines 1 – 29 of Voltsun] of one or both of the application programs [col. 8, lines 11 – 48 of Voltsun].

9. As to claim 8, Doughty as modified by Voltsun teaches a terminal [terminals 54; col. 7, lines 7 – 17 of Doughty] for an exchange [telecommunications switch 12; col. 7, lines 7 – 17 of Doughty], comprising:

at least one subscriber line for connecting a first subscriber [col. 3, lines 46 – 64 of Doughty];

at least one further connection for setting up a transmission channel to a second subscriber [col. 8, lines 3 – 11 of Doughty];

application programs for executing switching operations, to which signaling at the subscriber line and method steps for call processing belong [switching module 42; col. 4, lines 38 – 49 of Doughty], wherein signaling data generated during signaling is used when processing a call [Call Instance 402, Fig. 4; col. 8, lines 10 – 48 of Voltsun], or call data generated during call processing is used when signaling [call processor 49 includes a call processing application that provides various call processing and signaling functions, such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61 of Doughty]; and

an operating system controlling the flow of the application programs [switching module 42 runs a suitable operating system such as pSOS+; col. 4, lines 38 – 49 of Doughty], wherein at least one of the signaling data [col. 8, line 60 – col. 9, line 2 of

Volftsun] and the call data are transferred to at least one message interface using the operating system [Under control of the operating system, the protocol converter 100 executes originating and terminating state machines that are constructed based upon definitions prepared in a protocol definition language or Message Definition Language; col. 34, lines 30 – 49 of Volftsun].

10. As to claim 9, Doughty as modified by Volftsun teaches the terminal unit [terminals 54; col. 7, lines 7 – 17 of Doughty] for an exchange [telecommunications switch 12; col. 7, lines 7 – 17 of Doughty], comprising:

at least one connection for connecting a further exchange [col. 35, lines 28 – 40 of Volftsun];

application programs for executing switching operations [switching module 42; col. 4, lines 38 – 49 of Doughty], to which signaling at the connection and method steps for call processing belong, wherein signaling data generated during signaling is used when processing a call [Call Instance 402, Fig. 4; col. 8, lines 10 – 48 of Volftsun], or call data generated during call processing is used when signaling [call processor 49 includes a call processing application that provides various call processing and signaling functions, such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61 of Doughty]; and

an operating system controlling the flow of the application programs [switching module 42 runs a suitable operating system such as pSOS+; col. 4, lines 38 – 49 of

Doughty], wherein at least one of the signaling data [col. 8, line 60 – col. 9, line 2 of Volftsun] the call data are transferred to at least one message interface using the operating system [Under control of the operating system, the protocol converter 100 executes originating and terminating state machines that are constructed based upon definitions prepared in a protocol definition language or Message Definition Language; col. 34, lines 30 – 49 of Volftsun].

11. As to claim 11, Doughty as modified by Volftsun teaches an exchange [telecommunications switch 12; col. 7, lines 7 – 17 of Doughty] comprising a terminal unit [terminals 54; col. 7, lines 7 – 17 of Doughty] having at least one subscriber line for connecting a first subscriber [col. 8, lines 3 – 11 of Doughty];
 - at least one further connection for setting up a transmission channel to a second subscriber [transmission channels; col. 7, lines 52 – 64 of Doughty];
 - application programs for executing switching operations [switching module 42; col. 4, lines 38 – 49 of Doughty], to which signaling at the subscriber line and methods steps for call processing belong, wherein signaling data generated during signaling is used when processing a call [Call Instance 402, Fig. 4; col. 8, lines 10 – 48 of Volftsun], or call data generated during call processing is used when signaling [call processor 49 includes a call processing application that provides various call processing and signaling functions, such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61 of Doughty]; and

an operating system controlling the flow of the application programs [switching module 42 runs a suitable operating system such as pSOS+; col. 4, lines 38 – 49 of Doughty], wherein at least one of the signaling data [col. 8, line 60 – col. 9, line 2 of Voltsun] and the call data are transferred to one message interface using the operating system [Under control of the operating system, the protocol converter 100 executes originating and terminating state machines that are constructed based upon definitions prepared in a protocol definition language or Message Definition Language; col. 34, lines 30 – 49 of Voltsun].

12. As to claim 3, Doughty teaches the generated signaling data or the call data contain messages with a prescribed structure [col. 9, lines 7 – 25].

13. As to claim 4, Doughty teaches the messages contain receiver identifier, or an address reference on a data block with data to be transmitted, or a message identifier for distinguishing the different messages, or a message type identifier for identifying the type of message, or data on the application program generating the message [col. 9, lines 7 – 25].

14. As to claim 5, Doughty teaches the signaling data and/or the call data contain a data block, and wherein, in addition to data to be transmitted, the data block preferably contains further data with the aid of which the data block can be assigned to one more

application programs [transmit appropriate signaling and control data; col. 4, lines 21 – 34].

15. As to claim 6, Doughty teaches two first application programs are used for signaling with the aid of different protocols [col. 9, lines 24 – 35], and wherein the first application programs exchange at least one of signaling data and call data with second application programs via common or a plurality of interfaces, and wherein the same command sequence is executed during processing of the second application programs [signaling interface modules 52; col. 6, line 63 – col. 7, line 8].

16. As to claim 7, Doughty teaches two second application programs with identical different command sequences are used, wherein the application program exchanges signaling data and/or call data with the second application programs via a common or a plurality of message interfaces, and wherein the same command sequence preferably used in the case of second application programs with identical command sequences [signaling interface modules 52; col. 6, line 63 – col. 7, line 8].

17. As to claim 10, Doughty teaches signaling is executed by a first application program [signal processing modules 48; col. 4, lines 57 – 67], and wherein call processing is executed by a second application program [call processor 49 includes a call processing application that provides various call processing and signaling functions,

such as call origination and termination functions, as well as location updating and handover of mobile subscribers; col. 6, lines 27 – 39 and col. 8, lines 50 – 61].

CONTACT INFORMATION

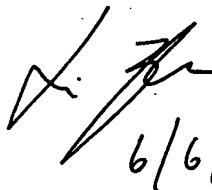
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li B. Zhen
Examiner
Art Unit 2194

LBZ



6/6/2007

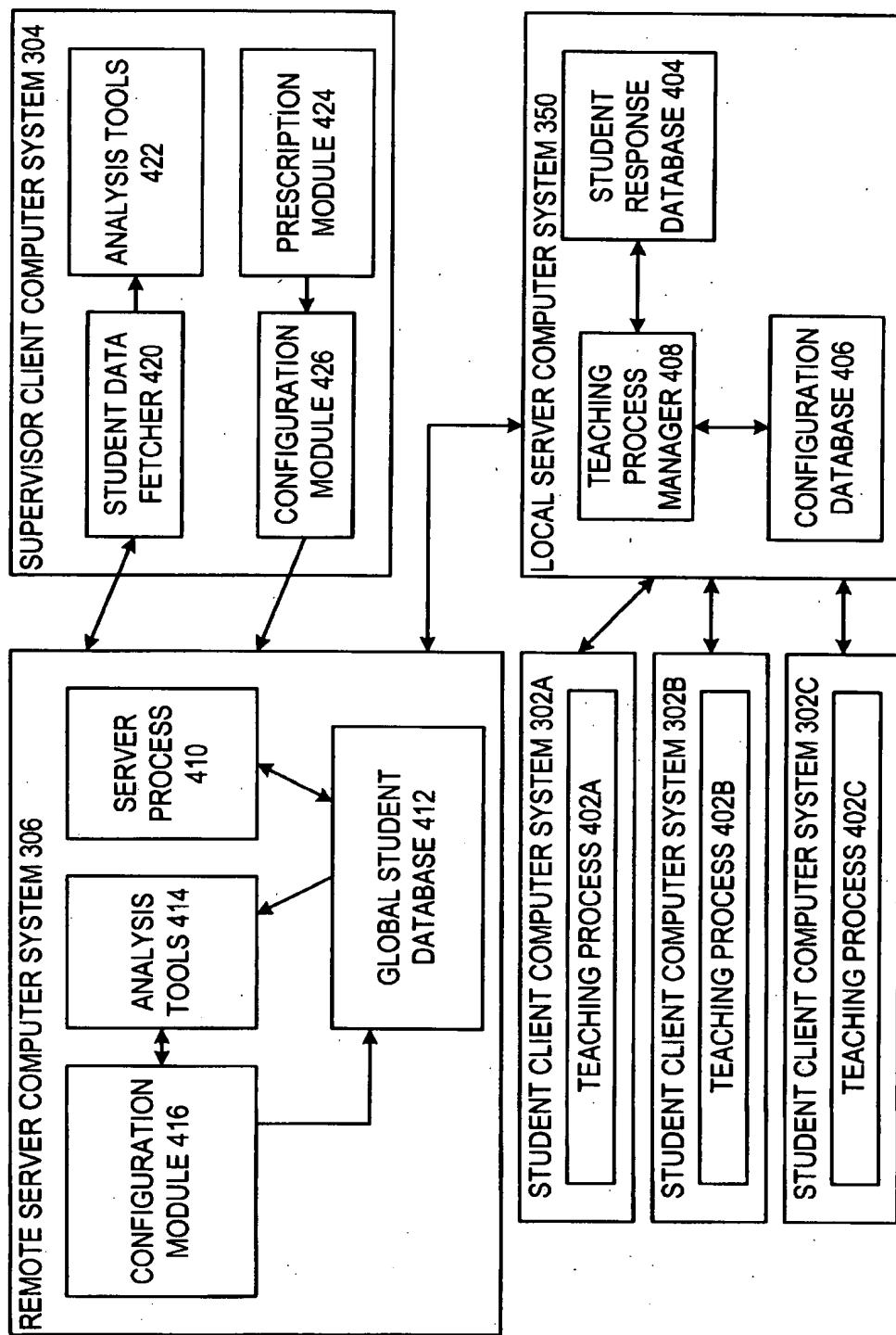


FIG. 4